



**RAEGuard 2 PID**  
**Fixed photoionization detector (PID)**

# RAEGuard 2 PID



## Reduced maintenance costs

- Easy to remove sensor module in hazardous locations without use of tools

## No false alarms

- Large UV lamp and better sealing allows greater sensitivity, faster response times and better resolution which results in a greater reliability

## Reduced life costs

- Unique lamp design makes the product more robust and enables longer life time

## Availability

- Continuous VOC monitoring in hazardous and non-hazardous locations

## Provides faster response times

- The sample flow-through design powered by an internal diaphragm pump provides faster response times

## Accurate readings

- Guaranteed by humidity compensation even in humid environments

## Suitable for a wide range of applications

- Over 200 correction factors<sup>1</sup> are pre-programmed and allow users to display readings of specific target gas

## Key applications and their VOCs

- Benzene in refinery analyser shelters
- Ammonia in industry
- Vinyl Chloride in chemical manufacturing
- Toluene or Ammonia in semi-conductor plants
- Chlorine Dioxide, Hydrogen Peroxide, Ozone in pulp and paper
- Solvent and chemicals storage
- Phenol and DME in pharmaceutical
- Toluene in printing
- Air quality
- Methyl Ethyl Ketone in paint spray booths
- Heat transfer fluids
- Acetone, Xylene, Phenol in medical, pathology, histology lab

## Status at a glance

The RAEGuard 2 PID operates on 10 to 28 VDC and provides an analogue (4-20mA) three-wire signal output, and RS-485 Modbus digital signal output.

Calibration and maintenance have been greatly simplified as the digital PID module can be easily removed in hazardous locations for calibration or maintenance.

The RAEGuard 2 PID has a graphic display and LED light status indicator for fault and alarm conditions. In addition, low, high, and fault relays\* can be configured to trigger external alarms or process controls.

A magnetic key interface enables the detector to be calibrated and operational parameters adjusted with the explosion-proof enclosure in place.

<sup>1</sup>Relays and Correction factors are disabled when using the 1 to 1000 ppm DigiPID



# General Specifications



RAEGuard 2 Fixed Sensor Head



DigiPID Sensor Module

## RAEGuard 2 Fixed Sensor Head Specifications

### Basic parameters

Working current	DC 10 to 28V, 210mA at 24V
Power	<5W
Output	<ul style="list-style-type: none"> <li>• 4-20mA</li> <li>• Three-level programmable alarm relays (30 VDC, 2A)</li> <li>• RS-485 (Supports Modbus)</li> </ul>
Sampling	Internal diaphragm pump, up to 500cc/min
IP rating	IP-65
Mechanical interface	3/4" NPT Male
Installation	2" (50.8 mm) pipe-holding or wall mounting
User interface	Three-key magnetic bar adjustment
Calibration	Two points
Warranty	1 year for the pump, 2 years for the housing and electronics

### Environmental parameters

Temperature	-4°F to 131°F (-20°C to +55°C)
Humidity	0 to 95% relative humidity, non-condensing
Pressure	90 to 110kPa

### Display

Display	128 x 64 matrix backlit LCD, supports graphic display
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### Physical parameters

Size	10.1" L x 7.9" W x 4.2"H (257 x 201 x 107 mm)
Weight	7.7 lbs (3.5 kg)
Material	316 stainless steel

### Certification

ATEX	Ex II 2(1)G, Ex d [Ia Ga] IIC T4 Gb
UL/CSA	Class 1, Div. 1, Groups ABCD T4
IECEX	Ex d [Ia Ga] IIC T4, Gb

## DigiPID Sensor Module Specifications

Power supply	5V ±0.25V DC
Current	110mA max
Power consumption	< 0.6W
Measuring range	0.01 to 100 ppm 0.1 to 1000 ppm 1 to 1000 ppm (No relays or correction factors)
Resolution	10 ppb, 1 ppm (depends on model)
Response time	Pumped (T90): <30 s
Calibration	Two-point off-line and field calibration Optional three-point calibration
Accuracy	±2% for calibration point
Analogue output	0.5 - 2.5V (ro=1.0k)
Digital interface	Serial Interface (UART) Transmit (Tx): 3.3V TTL Receive (Rx): 3.3V TTL

Warranty	2 years for the lamp, 1 year for the sensor, pump, electronics and housing
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Operating temperature	-4°F to +131°F (-20°C to +55°C)
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Humidity	0 to 95% RH non-condensing
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EMI/RFI	Highly resistant to EMI/RFI compliant with EMC directive 2004/108/EC
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Package	316 stainless steel Spray watertight for IP-65 rating Dust membrane for sensor front protection
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Size	1.92" D x 5.94" L (49 mm x 150.8 mm)
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Weight	< 19.4 oz (550g)
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### Certification

ATEX	II 1 G EX ia IIC T4 and 1M1 Ex ia I
UL/CSA	Class I, Div. 1, Groups A B C D T4
IECEX	Ex ia IIC T4 Ga and Ex ia I

## RAEGuard Ordering Options

### RAEGuard 2 Fixed Sensor Head Includes:

- Explosion-proof stainless steel enclosure with LCD display, integrated sampling pump and relays, digital connector for external sensors
- Magnetic key

### DigiPID Sensor Module Includes:

- Complete stainless steel PID sensor module with UV lamp and digital connector output for use with RAEGuard 2
- Choice of detection range 0.01 to 100 ppm, 0.1 to 1000 ppm or 1 to 1000 ppm
- DigiPID maintenance kit

### RAEGuard 2 PID Kits Includes:

- All RAEGuard 2 Fixed Sensor Head contents and all DigiPID contents as stated above

# Honeywell Analytics Lines of Business



## Commercial

Gas detection from standalone units to fully engineered, multi-point systems, all offering cost-effective regulatory compliance

- » Applications: parking structures, chillers, mechanical rooms, office towers, commercial buildings, shopping centers, swimming pools, golf courses, schools and universities, laboratories

## Industrial

Renowned Sieger and Manning gas detection systems with advanced electrochemical, infrared and open path sensing technologies

- » Applications: oil and gas, cold storage, water/wastewater treatment, chemicals, engine rooms, plastics and fibers, agriculture, printing and light industrial

## Portables

Single or multi-gas and other premium Detectors with compact, lightweight designs ranging from simple alarm only units to advanced, fully configurable and serviceable instruments

- » Applications: underground utility and electricity ducts, boiler rooms, post-fire sites, sewers, industrial plants, industrial hygiene, first responder teams, remote fleets

### Find out more

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## High Tech/Government

A complete portfolio of gas and chemical detection instrumentation including infrared spectroscopy (MST) with no cross interference, to Chemcassette paper-based solutions (MDA Scientific) offering detection down to parts per billion

- » Applications: semiconductor manufacturing and nanotechnology, aerospace propulsion and safety, specialty chemicals industry, research laboratories, emergency response

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## Technical Services

24/7 global network includes post-sales service and Systems Integration teams

- » Emergency call out, service contracts, on/off-site repair, training and commissioning
- » Complete range of spares, consumables and accessories

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